

# **TECHNICAL/REQUIREMENTS**

## **DIVISION I - GENERAL TECHNICAL REQUIREMENTS**

### **I.1 MOBILIZATION**

#### **I.1.A.00 DESCRIPTION/SCOPE**

Mobilization shall consist of preparatory work and operations, including but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site; for the establishment of offices, buildings and other facilities necessary for work on the project; for premiums on bond and insurance for the project and for other work and operations which the Contractor must perform or costs he must incur before beginning work on the project.

#### **I.1.B.00 DEFINITIONS**

#### **I.1.C.00 MATERIALS**

#### **I.1.D.00 CONSTRUCTION/WORKMANSHIP**

##### **I.1.D.01 GENERAL**

All labor and equipment necessary to accomplish the work as specified shall be supplied. All construction facilities shall be set up in a neat and orderly manner and shall be located within designated or approved work areas.

#### **I.1.E.00 TESTING**

#### **I.1.F.00 MEASUREMENT AND PAYMENT**

##### **I.1.F.01 LUMP SUM BASIS**

When listed in the Proposal as a separate pay item, payment for Mobilization will be made on a lump sum basis and will be made in partial payments.

The amounts to be allowed for Mobilization in the partial payments will be made as follows:

1. When 5% of the total original contract amount is earned from other bid items, 50% of the amount bid for Mobilization, or 5% of the total contract amount, whichever is the least, less normal retainage, will be paid.

2. When 10% of the total original contract amount is earned from other bid items, 100% of the amount bid for mobilization, or 10% of the total original contract amount, whichever is the least, less normal retainage, will be paid.

3. Upon completion of all work on the project, payment of any amount bid for mobilization in excess of 10% of the total original contract amount will be paid.

The above schedule of partial payments for Mobilization shall not be construed to limit or preclude partial payments otherwise provided by the contract.

#### **I.1.F.02 INCIDENTAL BASIS**

When neither specified nor listed in the Proposal for separate payment, mobilization will be considered incidental work for which no separate payment will be made.

### **I.2 TEMPORARY TRAFFIC CONTROL**

#### **I.2.A.00 DESCRIPTION/SCOPE**

This section covers all work necessary to conduct construction operations so as to offer the least possible obstruction and inconvenience to the public and to protect pedestrian and vehicular traffic.

#### **I.2.B.00 DEFINITIONS**

#### **I.2.C.00 MATERIALS**

#### **I.2.D.00 CONSTRUCTION/WORKMANSHIP**

##### **I.2.D.01 GENERAL**

Flagmen, barricades, signs and traffic control devices shall conform to current Cit of Corvallis traffic control policies and the most recent edition of the Manual on Uniform Traffic Control Devices (MUTCD), published by the U.S. Department of Transportation. Traffic control shall be submitted to the engineer a minimum of two weeks prior to projected implementation plan for review.

The Contractor shall provide and maintain such signs, barricades and warning lights as are necessary to warn and protect the public at all times on highways, roads, streets, pedestrian paths, multi use paths, construction easements, etc. affected by work operations. In addition, the Contractor shall also provide all necessary flagmen and guards necessary to warn and protect the public.

The Contractor shall patrol the traffic-control area and reset all disturbed signs and traffic-control devices immediately, and will remove or cover all nonapplicable signs during period not needed.

In the event that the Contractor fails to provide and maintain proper barricades, signs and/or other traffic control devices within one hour after notification by the Engineer, the City may install the barricades, signs and/or other traffic control devices and bill the Contractor at the cost of 2 times (200%) the City's actual force account costs which shall include all labor, equipment and materials involved. When necessary, the City may deduct the amount owed from any payments due or coming due to the Contractor. The Contractor shall notify the fire and police departments prior to any traffic restrictions, closures and/or detours. Access for fire and emergency equipment for the protection of buildings, lives, and property shall be maintained at all times. The Contractor shall be liable for any damages which may result from his failure to provide such reasonable access.

#### I.2.D.02 TRAFFIC CONTROL WITHIN THE PROJECT

When necessary, public traffic shall be permitted to pass through the work area with as little inconvenience and delay as possible.

The Contractor shall provide access to private properties at all times, except during certain stages of construction when, in the judgment of the Engineer, it is impractical to carry on the construction and maintain traffic simultaneously.

The Contractor shall give occupants of property fronting a street at least 24 hours notice before more than half the street is closed to vehicular traffic or when access to their property will be seriously impaired.

When, in the judgment of the Engineer, vehicular parking is a hazard to through traffic or the work, the Contractor shall obtain signs from the City and place (48 hours in advance) and maintain no parking signs on any street which is directly involved in the construction work. The Contractor shall be liable for any damages during the duration of the contract which may result from his failure to provide proper traffic control.

#### I.2.D.03 CONSTRUCTION AND MAINTENANCE OF DETOURS AND ROAD CLOSURES

Detours may be allowed if specifically approved by the Engineer for the protection of the work or the safe passage of public traffic through the work area.

No complete road closures will be permitted unless specifically approved by the Engineer.

The Contractor shall submit any closure or detour Plans to the Engineer for approval prior to the closure of any public street or roadway. When detours are allowed the contractor shall provide public notice of the detour through the newspaper one (1) week prior to and during the closure and shall place door hangars detailing the detour on all impacted properties one (1) week prior.

#### **I.2.D.04 ONE WAY TRAFFIC CONTROL**

When detours are not available or practical, the Contractor shall confine operations to a width which provides for safe passage or traffic. If in the judgment of the Engineer, one way traffic is necessary, the Contractor shall provide flagpersons as necessary to control the traffic. At the end of each day the Contractor shall leave the work in such condition that it can be traveled without damage to the work and without danger to the public.

#### **I.2.E.00 TESTING**

#### **I.2.F.00 MEASUREMENT AND PAYMENT**

##### **I.2.F.01 LUMP SUM BASIS**

When listed in the Proposal as a separate pay item, payment for Temporary Traffic Control will be made on a lump sum basis and will be made in partial payments based on the percentage of the total work completed.

##### **I.2.F.02 INCIDENTAL BASIS**

When neither specified or listed in the Proposal for separate payment, all Temporary Traffic Control will be considered incidental work for which no separate payment will be made.

### **I.3 CLEARING AND GRUBBING**

#### **I.3.A.00 DESCRIPTION/SCOPE**

This section covers the work necessary to clear, remove and dispose of all debris and vegetation such as stumps, trees, logs, roots, shrubs, vines, grass, weeds, fences, miscellaneous structures, and/or any other items specifically noted for removal in the Contract Document or as directed by the Engineer.

#### **I.3.B.00 DEFINITIONS**

##### **I.3.B.01 CLEARING**

Clearing is defined as the cutting and removal of trees, bushes, vines and other vegetative growth at or above the surface of the ground. Clearing also pertains to the removal and disposal of any structures at or above the surface of the ground.

##### **I.3.B.02 GRUBBING**

Grubbing is defined as the removal of vegetative growth, wood items, or any structures remaining at or below the ground surface following the clearing operation.

### **I.3.C.00 MATERIALS**

### **I.3.D.00 CONSTRUCTION/WORKMANSHIP**

#### **I.3.D.01 GENERAL**

All clearing and grubbing shall be limited to those areas as shown on the Plans and as further specifically directed by the Engineer.

Clearing and grubbing shall include those items as listed in the description. Trees, shrubbery, flower beds or other items designated by the Engineer shall be left in the place and care shall be taken by the Contractor not to damage or injure such trees, shrubbery, flower beds or other items by any of his operations.

Interfering structures such as mailboxes, fences, etc., shall be removed and replaced as specified on the Plans.

The Contractor shall be responsible for all damages resulting from his operations.

#### **I.3.D.02 CLEARING**

The area within the clearing limits shall be cleared above the natural ground surface of all vegetative growth and objectionable materials except as noted on the Plans or as directed by the Engineer. Timber and timber growth shall be cut so that no stump extends above the ground surface more than 6".

#### **I.3.D.03 GRUBBING**

##### **I.3.D.03.1 EXCAVATION AREAS**

Within the grubbing limits all roots and embedded wood greater than 1" shall be removed to a depth not less than 6" below the subgrade or slope surface to which the excavation is to be constructed. All stumps and designated structures shall be removed completely.

##### **I.3.D.03.2 EMBANKMENT AREAS**

Within the grubbing limits all roots and embedded wood greater than 1" shall be removed to a depth not less than 1' below the subgrade or slope surface to which the embankment is to be constructed. All stumps and designated structures shall be removed completely.

#### **I.3.D.04 TIMBER**

##### **I.3.D.04.1 FELLING TREES**

All trees to be felled shall be felled within the area to be cleared. Where tree limbs interfere with utility wires or buildings, or where trees to be felled are in close proximity to utility wires or building, the tree shall be taken down in sections to eliminate the possibility of damage.

#### **I.3.D.04.2 TRIMMING TREES**

In the event that trees with low limbs exist in the clearing area or adjacent to the clearing area but are not to be removed, it shall be the Contractor's responsibility to trim the low limbs to a height of 15' above the level of the proposed street and 8' above the level of the proposed sidewalk, or to a level as directed by the Engineer. The trimming shall be performed in a professional manner by a licensed arborist or his/her representative unless otherwise directed by the engineer.

#### **I.3.D.04.3 ROOT PRUNING**

In the event that trees exist in the clearing area or adjacent to the clearing area and have roots which protrude into the grubbing area, but the trees are not to be removed, it shall be the Contractor's responsibility to prune the roots to a depth not less than that specified in Section I.3.D.03, GRUBBING. The root pruning of roots 2" and larger shall be performed in a professional manner by a licensed arborist or his/her representative.

#### **I.3.D.04.4 MERCHANTABLE TIMBER**

Merchantable timber to be felled shall become the property of the Contractor unless otherwise specified.

#### **I.3.D.05 DISPOSAL**

All material from the clearing and grubbing operations, unless otherwise specified, shall be removed from the project site and shall be disposed of by the Contractor in a manner satisfactory to the Engineer and in compliance with Federal, State, and local laws and ordinances.

### **I.3.E.00 TESTING**

### **I.3.F.00 MEASUREMENT AND PAYMENT**

#### **I.3.F.01 ACREAGE BASIS**

When listed in the Proposal, payment for clearing and grubbing will be made on an acreage basis for the area cleared and grubbed within the specified limits; measured to the nearest 0.1 acre.

#### **I.3.F.02 LUMP SUM BASIS**

When listed in the Proposal, payment for clearing and grubbing will be made on a lump sum basis for all clearing and grubbing within the specified limits.

#### **I.3.F.03 INCIDENTAL BASIS**

When neither specified or listed in the Proposal for separate payment, all clearing and grubbing will be considered incidental work for which no separate payment will be made.

### **I.4. FINAL CLEANUP**

#### **I.4.A.00 DESCRIPTION/SCOPE**

This section covers the work necessary to restore and cleanup the site and remove all construction equipment, refuse and unused material of any kind resulting from the project activities.

#### **I.4.B.00 DEFINITIONS**

#### **I.4.C.00 MATERIALS**

#### **I.4.D.00 CONSTRUCTION/WORKMANSHIP**

##### **I.4.D.01 SURFACE DRESSING**

Slopes, sidewalk areas, planting areas and roadways shall be smoothed and dressed to the required cross-section and grade.

Upon completion of the cleaning and dressing, the project shall appear uniform and complete in all respects. All areas shall be graded true to line and grade as shown on the Plans and as directed by the Engineer. Where the existing planting is below sidewalk and curb, the area shall be filled and dressed regardless of the limits shown. Wherever fill material is required in a planting area, the finish surface shall be made high enough to allow for final settlement. Seeding will not be required unless otherwise specified.

##### **I.4.D.02 REMOVAL OF MATERIALS**

All excavated or construction materials, equipment, and trash of all kinds resulting from the work shall be removed from the site and disposed of in an approved manner. Where plants or trees beyond the limits of the project and those within the project that are to remain have been damaged, they may be required to be removed and the same replaced as directed by the Engineer, all at the expense of the Contractor.

##### **I.4.D.03 CLEANING INCIDENTAL STRUCTURES**

All incidental structures and other facilities such as inlets, catch basins, culverts, open ditches, manholes, valve boxes, etc., shall be cleaned of all excess material and debris which is a result of the work, as directed by the Engineer.

#### **I.4.D.04 CLEANING PAVED SURFACES AND APPURTENANCES**

All pavement surfaces, whether new or existing within the limits of the project, shall be cleaned. Existing improvements such as curbs, gutters, walls, sidewalks, castings for manholes, monuments, water gates, lamp poles, vaults, signs, and other similar installations within the projects limits, shall be cleaned.

#### **I.4.D.05 RESTORING PLANTED AREAS**

All disturbed vegetation shall be restored as directed by the engineer. All former grassed and/or planted areas shall be groomed, leaving disturbed areas free from rocks, gravel, clay or any other foreign material and ready, in all respects, for seeding. The finished surface shall conform to the original surface, be free-draining and free from holes, rough spots, or other surface features detrimental to the seeded area.

#### **I.4.D.06 RESTORING ALL AFFECTED PROPERTIES**

All properties and miscellaneous structures such as fences, etc., which were disturbed during construction of the project shall be cleaned and restored to an equal or better condition. All uprooted stumps, felled trees, brush, excess excavation, rock, discarded materials, rubbish and debris shall be disposed of in an approved manner. All equipment, tools, and supplies shall be removed and the property occupied shall be restored to a neat, clean and orderly condition, equal to or better than that existing before move in.

#### **I.4.D.07 REMOVAL OF SIGNS**

All warning, guide, regulatory, or project signs shall be removed after formal acceptance of the project, and not before, unless otherwise approved by the Engineer.

#### **I.4.E.00 TESTING**

#### **I.4.F.00 MEASUREMENT AND PAYMENT**

##### **I.4.F.01 LUMP SUM BASIS**

When listed in the Proposal as pay item, payment for final cleanup will be made on a lump sum basis.

#### I.4.F.02 INCIDENTAL BASIS

When neither specified nor shown in the Proposal for separate payment, all final cleanup will be considered as incidental work for which no separate payment will be made.